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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,344	12/28/2001	Thomas L. Dings	P 280213 EMC-0-068	5511

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EXAMINER

WONG, LESLIE

ART UNIT PAPER NUMBER

2177

DATE MAILED: 09/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,344

Applicant(s)

DINGS, THOMAS L.

Examiner

Leslie Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/30 May 02
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. Applicants' Information Disclosure Statement, filed 30 May 2002, has been received, entered into the record, and considered. See attached form PTO-1449.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it exceeds 150 words limit.

Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 1 is objected to because of the following informalities: claim 1 does not end with a period ("."). Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by **Mutalik et al.** ("Mutalik") (U.S. Patent 6,611,923 B1).

Regarding claim 1, **Mutalik** teaches an enterprise storage system for performing a file level backup operation on data using a mirror disk and a primary disk, individual files of data being backed up from the mirror disk to a backup storage media while a database application on a host system can freely read to and write from a database stored on the primary disk after a quiesce period which occurs as part of the file level backup operation, said system comprising:

- a). a primary disk (Fig. 1, element 14);
- b). a mirror disk (Fig. 2c, element 115 and Fig. 1, element 16(1));
- c). a file level mirrored backup portion, operable to initiate a file by file backup of data from said mirror disk to a backup storage device (col. 2, lines 45-47);

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d). a synchronizer to synchronize data from said primary disk to said mirror disk upon an initiation of a file level mirrored backup process by said file level mirrored backup portion (col. 10, lines 50-54);

e). a database quiesce mechanism, operable after said synchronizer synchronizes said data from said primary disk to said mirror disk, to quiesce read and write interactions between said database application and said primary disk (col. 5, lines 42-45);

f). a discovery and prepare mechanism operable after quiescing of the read and write interactions to conduct discovery and prepare phases of a file by file mirrored backup operation (col. 2, lines 47-56);

g). a backup and cleanup mechanism to backup certain identified files from said mirror disk to said sequential storage media after completion of said discovery and prepare phases (col. 2, lines 45-47; col. 3, lines 6-11; col. 6, lines 20-23);

h). a split mechanism operable to split said mirror disk from said primary disk before backing data files up from said mirror disk to said sequential storage media (Fig. 2E elements 132 and 133);

i). an extent mapping mechanism to perform extent mapping on files to be backed up in a given backup session before said split mechanism splits said mirror for the same given backup session (col. 8, lines 29-44; Fig. 2A and Fig. 3C).

Regarding claims 2 and 3, **Mutalik** further teaches wherein said backup storage device comprises a tape storage device (col. 4, lines 62-67).

Regarding claim 4, **Mutalik** further teaches wherein the quiescing of read and write interactions comprises freezing the database application (col. 5, lines 42-45).

Regarding claim 5, **Mutalik** further teaches wherein the quiescing of read and write interactions comprises putting the database application in a hot backup state and maintaining a redo log during continued read and write interactions (col. 10 lines 47-54).

Regarding claims 6 and 7, **Mutalik** further teaches the step of an extent map check and update mechanism to check, after said split mechanism splits said mirror for the same given backup session, whether any files have been updated in a manner so as to require additional or revised extent map information (col. 9, lines 42-63).

Regarding claim 8, **Mutalik** further teaches said mirror disk comprising memory media contained within a same enterprise storage platform as said primary disk (col. 2, lines 48-53 and Fig. 1).

Regarding claim 9, **Mutalik** further teaches the step of an unquiesce mechanism to unquiesce the database application after said mirror is split for the same given backup session (col. 5, lines 50-55 and Fig. 3D).

Regarding claim 10, **Mutalik** further teaches wherein said unquiesce mechanism unquiesces the database application after said extent map check and update mechanism completes a check and update operation in the same given backup session (col. 10, lines 42-54).

Regarding claim 11, **Mutalik** further teaches a backup and clean up mechanism operable to perform backup and cleanup processes for the same given backup session (col. 3, lines 6-11).

Regarding claim 12, **Mutalik** further teaches wherein said backup and cleanup processes include writing given identified files to sequential storage in logical order in terms of a logical file identification scheme used by said host system (col. 8, lines 12-19).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Markson et al. (U.S. Patent 6,7114,980)

Sparks (U.S. Patent 5,212,784)

Ohran (U.S. Patent 6,397,307)

St. Pierre et al. (U.S. Patent 6,269,381)

Shen (U.S. Patent 6,611,850)

Beardsley et al. (U.S. Patent 6,304,980)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Wong whose telephone number is (703) 305-3018. The examiner can normally be reached on Monday to Friday 9:30am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leslie Wong
Patent Examiner

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